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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/478,235	01/04/2000	ALI NAJIB SALEH	M-7165-3P	1418

33031 7590 08/11/2003

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EXAMINER

LEE, TIMOTHY L

ART UNIT	PAPER NUMBER
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2697

DATE MAILED: 08/11/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/478,235

Applicant(s)

SALEH, ALI NAJIB

Examiner

Timothy Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 16 June 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-8, 10-35 and 37-61 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10-35 and 37-45 is/are allowed.
- 6) ☒ Claim(s) 1-8 and 46-61 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 9.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-3, 46-48, and 54-57 are rejected under 35 U.S.C. 102(e) as being anticipated by Basso et al. (US 6,370,119).
3. Regarding claims 1, 46, and 54, Basso et al. discloses a method and system for determining the optimal path for routing a communication in a communication network (a method of finding a path in a network). See Abstract. Fig. 1 discloses a communications network with a plurality of nodes and a plurality of links (comprises a plurality of nodes and a plurality of links). Fig. 4 discloses a routing table, which contains information for where the optimum routes are stored. See also col. 6, lines 6-16. Fig. 3 discloses a flow chart of the path computation procedure (generating at least one path cost data set). See also col. 5, lines 53-67, and col. 6, lines 1-6. After computation of optimal paths is complete, the optimal path from the predefined source node to the predefined destination node will be retrieved from the routing table at the table entry corresponding to the destination node (a minimum-hop path and a minimum-cost path can be determined from at the path cost data set). See col. 6, lines 6-16. The shortest path from a source node to a destination node will be the path having the smallest cumulative cost, i.e., the smallest sum of the costs of all the links of the path. Examples of typical cost

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criteria are the minimum hop count and the minimum path length (a minimum hop path represents a minimum number of hops; minimum cost path having a minimum cost). See col. 1, lines 25-29. If the system is a computer system, it is inherent that a processor exists.

4. Regarding claims 2, 3, 47, 48, 55, and 56, as mentioned previously, the optimal paths are stored in the routing table and later retrieved to determine the minimum-hop/minimum-cost path (storing path cost data in a path storage area such that they can be accessed). See col. 6, lines 6-16. It is inherent that the path storage area is allocated if the method or system is to update the table with new values when a new optimal path is found (allocating path storage area in a data structure).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 4-8, 49-53, and 57-61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Basso et al. in view of Busche (US 5,805,593).

7. Regarding claims 4, 49, and 57, Basso discloses a routing table with the node\_ID defining the rows, and a table inherently contains rows and columns, but Basso et al. does not expressly disclose having the table arranged so that columns correspond to a given hop count. See Fig. 4 for routing table structure. Busche discloses a table that is sorted by hop count. See Fig. 2, and col. 4, lines 12-16. It would have been obvious to a person of ordinary skill in the art

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at the time of the invention to set the columns in the table disclosed by Basso et al. so that they correspond to number of hops. One of ordinary skill in the art would have been motivated to do this because aligning the columns by hop count is just another way of organizing the connections that exist in a network.

8. Regarding claims 5, 50, and 58, neither Basso et al. nor Bucsche expressly discloses traversing the rows and storing path information representing a minimum-hop path, but it would have been obvious to a person of ordinary skill in the art at the time of the invention to traverse the rows to find minimum-hop path information. One of ordinary skill in the art would have been motivated to do this because traversing a row can be easily accomplished to find a minimum hop number.

9. Regarding claims 7, 52, and 60, neither Basso et al. nor Bucsche expressly discloses identifying a minimum cost column, but it would have been obvious to a person of ordinary skill in the art at the time of the invention to identify a minimum cost column. One of ordinary skill in the art would have been motivated to do this because identifying a minimum cost column would reduce the costs incurred on the system.

10. Regarding claims 6, 8, 51, 53, 59, and 61, Basso et al. discloses that the source node is listed in the first column of the routing table found in Fig. 4. See also col. 6, lines 43-60.

***Allowable Subject Matter***

11. Claims 10-35 and 37-45 allowed.

***Response to Arguments***

12. Applicant's arguments filed June 16, 2003 have been fully considered but they are not persuasive.

13. In response to the Applicant's argument that Basso et al. does not use the term "cost" in the same way, the Examiner contends that Basso et al. does in fact use the term "cost" in the same sense. On page 48, lines 25-26 of the Applicant's specification state that "cost is discussed in terms of quality of service, and so can subsume physical distance, availability, cost of service, and other such characteristics". Basso et al. states the following in col. 5, lines 7-10: "Another type of link characteristic are the so-called additive costs associated to each link, an example of which is path length." Because quality of service can include physical distance, the "cost" from Basso et al. can be considered similar to the "cost" from the application.

14. In response to the Applicant's argument that Basso et al. only teaches one entry in the routing table and only retrieves a single, optimal path between a source and destination node, the Examiner agrees that Basso et al. teaches retrieving one optimal entry from the routing table for routing between a source and a destination. The Applicant also argues that because Basso et al. only retrieves one optimal route from the table, it is not able to distinguish between the "minimum-hop" and the "minimum-cost" paths. The claims in question, however, do not specify that the "minimum-hop" and the "minimum-cost" paths must be different paths. In the case of Basso et al., the "minimum-hop" path and the "minimum-cost" path happen to be the same path. Basso et al. states the following in col. 11, lines 7-12: "the optimal path selected is the shortest path, that is, the path that has the lowest additive cost. Having the lowest additive cost also includes having the minimal hop count since the additive cost increases with the

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number of links traversed.” This “widest-shortest path” disclosed by Basso et al. is both the minimum-hop and the minimum-cost path. Furthermore, the “at least one path cost data set” does not have to include more than one path—a “set” of numbers can mean that there is only one number in that set, so a “set” of paths can also include only one path.

15. In response to the Applicant’s argument that distinct “minimum-hop” and “minimum-cost” paths can not be determined, the Examiner cites col. 11 again where Basso et al. teaches the widest-shortest path has both the minimum cost and the minimum hop count. See lines 3-12.

### ***Conclusion***

16. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy Lee whose telephone number is (703)305-7349. The examiner can normally be reached on M-F, 9-5.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (703)305-4744. The fax phone numbers for the organization where this application or proceeding is assigned are (703)872-9314 for regular communications and (703)872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-4700.

TLL  
August 6, 2003



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